

REMARKS

Initially, Applicant respectfully acknowledges that the Examiner has indicated that claims 10-14 are allowed, claim 1 would be allowable if rewritten or amend to overcome the rejection(s) under 35U.S.C.112, second paragraph, set forth in the Office Action, and claim 17 would be allowable if rewritten or amend to overcome the objection(s) set forth in the Office Action.

Claims 1-8 and 10-19 remain pending in the application. Claim 9 has been canceled without prejudice or disclaimer of the subject matter thereof.

Reconsideration of the rejections and allowance of the pending application in view of the foregoing amendments and following remarks are respectfully requested.

In the Office Action, claims 1-8 and 18-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite because “a voltage” in claim 1, line 4, is unclear as to what voltage is referring to, “the controller detects a voltage applied to the both ends of the searching coil when a difference between a phase of the first stroke value and a phase of the current applied to the motor is 90°” in claim 3 renders the claim indefinite because the specification (page 9, lines 3-5) teaches that when a phase detected in the phase difference detector 360 is 90°, the controller 320 applies the voltage which is applied to the both ends of the searching coil detected by searching coil voltage detector 350, “x is a piston speed value” in claim 8 renders the claim indefinite because the specification (page 8, line 8) teaches “x is a second stroke estimation value”, and “a second stroke value” in claim 18, line 2, renders the claim indefinite because nowhere in the claim teaches “a first stroke value”.

In response, claim 1 has been amended to change “by using a voltage, a current

applied to" therein to -- by using a voltage and a current applied --, claim 3 has been amended to clarify the indefiniteness therein, claim 8 has been amended to change "x is a piston value" to --x is a second stroke estimation value--, and claims 18 and 19 have been amended to change "second stroke" therein to --new stroke--. Thus, the rejection of claims 1-8 and 18-19 is now moot.

Claims 15 and 16 are objected to because in "varying the voltage varying" in claim 15, line 1, the word "varying" is repeated.

In response, claim 15 is amended to change "varying the voltage varying" to -- varying the voltage--. Thus, the objection to claims 15 and 16 is now moot.

The specification is objected to because of the several noted informalities.

In response, the specification has been amended to correct the informalities according to the Examiner's notes. Thus, the objection to the specification is now moot.

In the Official Action claim 9 is rejected under 35 U.S.C. 102(e) as being anticipated by Yoo et al., U.S. Patent Publication No. 2004/0066163). This rejection is respectfully traversed.

In response, claim 9 has been canceled. Thus the rejection of claim 9 under 35 U.S.C. 102(e) is now moot.

Independent claims 1, 10 and 17 are now in condition for allowance in view of the amendments and the above-noted remarks. Dependent claims 2-8, 11-16, and 18-19 are also submitted to be in condition for allowance in view of their dependence from the allowable base claims and also at least based upon their recitations of additional features of the present invention.

It is respectfully requested, therefore, that the rejections under 35 U.S.C.102(e)

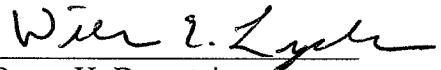
and the second paragraph of 35 U.S.C. 112 be withdrawn and that an early indication of the allowance thereof be given.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based on prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to be attached thereto.

Based on the above, it is respectfully submitted that this application is now in condition for allowance, and a Notice of Allowance is respectfully requested.

Should the Examiner have any questions or comments regarding this response, or the present application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
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